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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,274	02/29/2000	Victor Michael Aquaro	1-1-36-86	9602

7590 02/13/2004
RYAN, MASON & LEWIS LLP
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FAIRFIELD, CT 06430

EXAMINER

NGUYEN, TUAN N

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/516,274

Applicant(s)

AQUARO ET AL.

Examiner

Tuan N Nguyen

Art Unit

2828

-- The MAILING DATE f this communication appears on the cover sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2828

DETAIL ACTIONS

1. Respect to the Appeal Brief filed 10/27/2003, Final rejection has been withdrawn.
2. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Payne (US 5305413) in view of Scifres et al. (US 4818062).

With respect to claims 1, 8, 15, 16 Payne '413 shows in figures 1, 2, 8 a multimode tapered structure for coupling to fiber having an end elliptical cross section input and output end having a circular cross section. The claims further require that the output end couple with

Art Unit: 2828

multimode fiber. Scifres '062 shows in figures 1-4, 8, 11 a multimode tapered structure (F2: 17) for coupling a multimode laser (F2: 11, 45) to a multimode fiber (F2: 53)(F4: 27, 33), comprising an input end having an elliptical cross section (even though it is squashed) for coupling with multimode laser (F2: 51, 47, 49, 11, 45), and output end having a circular cross section for coupling with said multimode fiber (F2: 53)(F4: 27, 33). He further show the multimode laser source having a rectangular aperture (F2: 11) (F8: 81), the multimode fiber having a core surrounded by a cladding (F2: 49). Since claim 15 recites the same or identical elements/limitations it is inherent to use patents ('062) to recite the method of coupling multimode laser to a multimode optical fiber, product by process. For the benefit of having a multimode tapered structure with elliptical cross section end couple to multimode fiber to transmit signals, it would have been obvious to one of ordinary skill in the art to provide Payne'413 the multimode fiber as taught or suggested by Scifres et al. ('062).

With respect to claims 2-3, and 9-10, Scifres et al. '062 shows in figures 2, and 4 the elliptical cross section approximately matches the rectangular aperture of said laser (F1: 49), and circular cross section approximately matches the core of the fiber (F4: 31), where tapered structure is smaller in dimension at input end to a larger dimension at output end (F2: 49, 53).

With respect to claims 5-6, and 12-13 Scifres et al. ('010) shows in figures 2, 8 and 11, the tapered structure has a numerical aperture and a length provide desired coupling efficiency (col 5: 54-56) (F8: 103, 105, 107) (F10: 103, 105, 107.)

Art Unit: 2828

With respect to claims 4, 7 and 11, 14 Scifres '062 shows in figures 2:51 the elliptical cross section of the input and the circular output (F2: 53) of the taper region. Scifres did not disclose whether the input is larger or the output larger. It has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

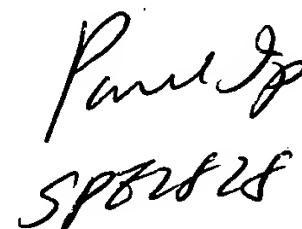
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571) 272-1941. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a stylized, elongated 'N'.A handwritten signature in black ink, appearing to read 'Paul Ip', with the number '582828' written below it.